

Claims

- [1] A PHC pile used in a permanent retaining wall structure, comprising:
a left connection pipe (204) in the form of a female connection body embedded at a side of the PHC pile (200); and
a right connection pipe (206) in the form of a female connection body embedded at the other opposite side of the PHC pile (200),
whereby a connection bar (220) for use in connecting a plurality of PHC piles can be inserted into the connection pipes.
- [2] The PHC pile as claimed in claim 1, wherein each of the left and right connection pipes (204, 206) is in the form of a cylindrical pipe with a cut-away portion at a side thereof, and lateral sides of the cut-away portion are reinforced by a connection pipe-reinforcing material to reinforce the left and right connection pipes (204, 206).
- [3] The PHC pile as claimed in claim 2, wherein the left and right connection pipes (204, 206) are closely connected to each other by means of an elongated binding steel member (208) to prevent the connection pipes from coming out from the PHC pile (200).
- [4] The PHC pile as claimed in claim 3, wherein the left and right connection pipes (204, 206) are placed in a sheath (252) of the PHC pile.
- [5] The PHC pile as claimed in any one of claims 1 to 4, wherein both lateral ends of the connection bar (220) are configured to serve as male connection bodies for a right connection pipe (206a) of a first PHC pile (200a) and a left connection pipe (204b) of a second PHC pile (200b) so that the connection bar (220) can be inserted into the right and left connection pipes (206a, 204b).
- [6] A method of connecting PHC piles to each other, each of the PHC piles having left and right connection pipes embedded therein for serving as female connection bodies upon installation of a permanent retaining wall structure, comprising:
a first step of inserting a waterproof material into inner semi-cylindrical grooves (500) of a right connection pipe (206a) of a first PHC pile and a left connection pipe (204b) of a second PHC pile;
a second step of inserting a connection bar (220) for connecting the PHC piles into the right connection pipe (206a) of the first PHC pile and the left connection pipe (204b) of the second PHC pile; and
a third step of consecutively connecting a plurality of PHC piles to one another by repeating the first and second steps.
- [7] The method as claimed in claim 6, wherein the second step further comprises the

step of attaching fixing steel members (602) to the tops of the right connection pipe (206a) of the first PHC pile and the left connection pipe (204b) of the second PHC pile into which the connection bar (220) has been inserted, thereby preventing the connection bar (220) from coming out therefrom.